



EMS Tutorial

FAA Environmental Forum

May 17, 2006

Goals of EMS

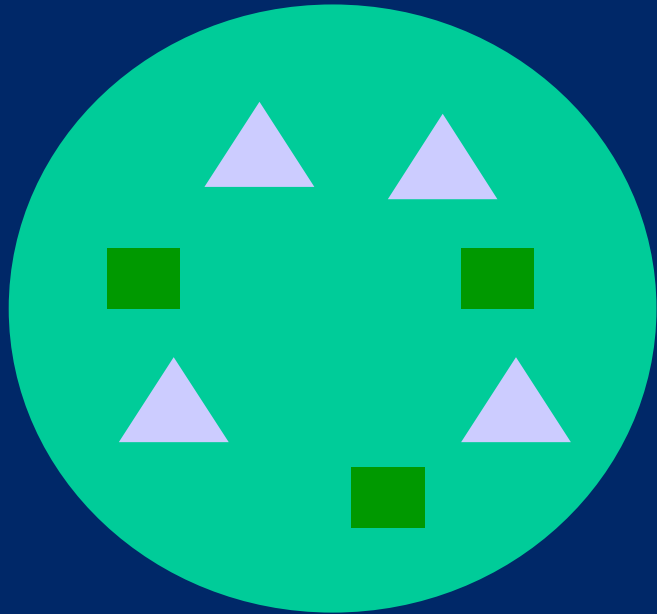
1. Improve Management of Environmental Risks:
 - formal, structured, consistent approach
 - provide clarity on requirements, objectives, roles, responsibilities, accountabilities
 - promote involvement, attitude, commitment in employees and in management
2. Improve environmental performance by improving the EMS

Where does EMS fit?

- It is not a new environmental program
- It is not a new requirement
- It is not a new operational control
- It is not a new issue
- It is not the newest flavor-of-the-month management scheme
- It is your **System** for addressing all environmental matters in your organization

EMS addresses risks: old and new

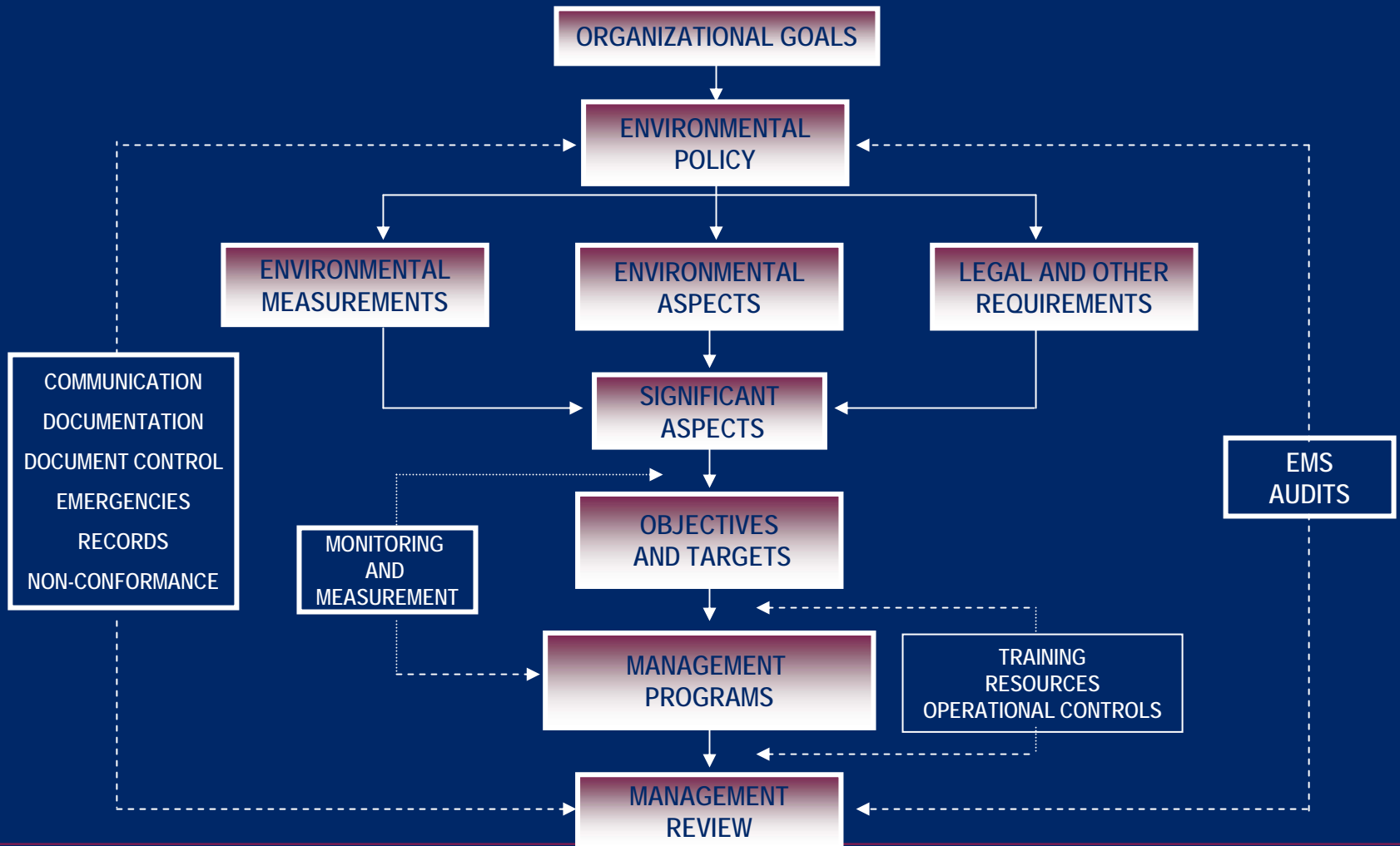
Organization



▲ Existing risks typically identified by regulatory requirements

■ New risks identified by significance of risk criteria

EMS Framework



Two parts of an EMS

EMS "Whats"

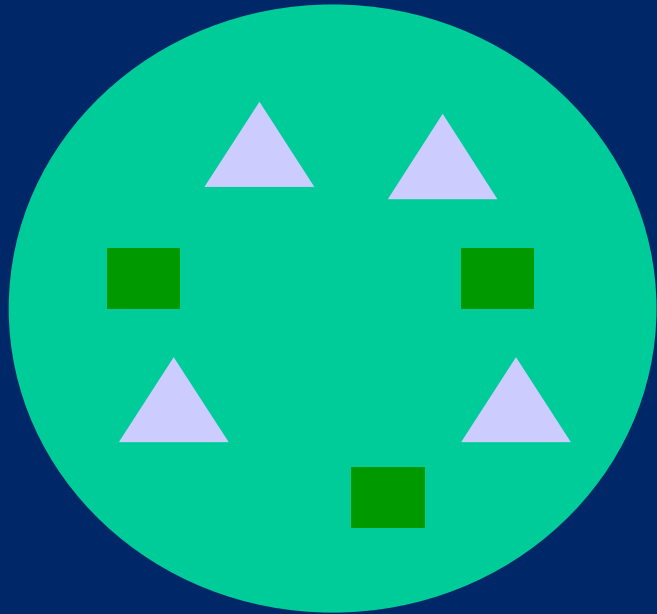
- Establish Policy
- Identify Env. aspects
- Identify requirements
- Set objectives and targets
- Implement programs
- Start operational controls
- Communicate
- Monitor and measure
- Audit EMS
- Management reviews

EMS "Hows"

- Aspects procedure
- Requirements procedure
- O&T procedure
- EMP procedure
- OCs procedure
- Communications procedures
- M&M procedure
- EMS audit procedure
- Mng't. Review procedure

Old and new EMPs

Organization



▲ Old EMPs address existing risks identified by regulatory requirements

■ New EMPs address new risks identified by significance of risk criteria

Existing Programs (EMPs)

- They constitute an existing base for the EMS
- They already address known significant risks
- Achieving compliance or control of a risk does not make it less significant
- All programs (both old and new EMPs) are essential parts of the EMS

Activities, Products and Services

- This is where you take stock of what you do – mostly “activities” for federal facilities:
 - Consider mission
 - Consider activities that support the mission – e.g., maintenance
 - Consider actions that are both regulated and not regulated (e.g., commuting to work)

Aspects and Impacts

- Identify environmental aspects of your own activities products and services that you *can control or influence*
- Aspects include air emissions, water discharges, spills on soil, raw materials use, natural resources use

Environmental Aspects and Impacts

- *Aspect: An element of activities, products or services that can interact with the environment (similar to "hazard").*
- *Potential impact: The probability of change in the environment (similar to "risk").*

Comparing aspects to hazards

EMS	Health & Safety
Aspects (cause): Air emissions Land use disturbance	Hazards (cause): Chemical use exposure Tool use exposure
Impacts (effect): Air pollution Habitat destruction	Risks (effect): Chronic illness Injury

Aspects differentiated

- Aspect:

- Waste generation
- Material consumption
- Fuel consumption
- Air emissions
- Chemical release
- Ecology disturbance

- Not an aspect:

- Air quality – this is an objective
- P2 – this is a strategy
- Vehicle maintenance – this is an activity
- Water contamination – this is an impact

Significance criteria (1)

Why is significance criteria important?

Significance criteria (2)

- Necessary in order to have a "risk-based" approach
- Sets thresholds for each type of impact so as to select those instances deemed significant
- Significant to environment or to organization
- The EMS manages significant environmental aspects

Significance criteria (3)

□ Environmental Concerns

- ♦ Scale of the impact
- ♦ Severity of impact
- ♦ Probability of occurrence
- ♦ Duration of impact

□ Mission Concerns

- ♦ Potential liabilities
- ♦ Difficulty of changing the impact
- ♦ Cost of addressing impact
- ♦ Disruptions
- ♦ Interested parties
- ♦ Effect on public image
- ♦ Neighbors
- ♦ Resource availability

More on EMPs

- The **heart** of the EMS; how to achieve objectives & targets
- Much of what is done in EMS is aggregated into EMPs:
 - ✓ activities, products and services
 - ✓ significant environmental aspects
 - ✓ legal and other requirements
 - ✓ objectives, targets and performance indicators
 - ✓ operational controls
 - ✓ roles, responsibilities, accountabilities
 - ✓ competencies

Why EMPs?

- Existing EMPs point to already identified significant aspects
- It is OK to set some objectives and targets to **maintain** levels
- EMPs are always required for O&Ts, even for those that are set to maintain an achieved level. Otherwise:
 - ❖ O&Ts already achieved may backslide
 - ❖ Significant aspects may not be managed in organized manner
 - ❖ There will emerge a false concept of the EMS (e.g., "just another program")
- **Operational controls** are necessary but not sufficient for organized EMS management; they are a part of EMPs.

EMP is a Structured Approach

EMP FOR SIGNIFICANT ENVIRONMENTAL ASPECT

1. Objective:
2. Target:
3. Reasons or Significance:
4. Potential Impact:
5. Legal and Other Requirements:
6. Performance Indicators:
7. Program Description:

EMP (Continued)

8. Operational Control:

9. Budget resources:

10. Structure, Authorities, Responsibilities:

Tasks:	Responsible Person:
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11. Records:

12. Documents:

13. Competence of Responsible Persons:

14. Other program Elements:

EMP template

- What's so great about the EMP template?
 - ✓ It defines the elements of an effective program
 - ✓ It makes the EMS elements comprehensible
 - ✓ It helps to enhance existing programs
 - ✓ It helps to initiate new programs
 - ✓ It creates consistency across the organization
 - ✓ It helps succession between program managers
 - ✓ It facilitates communication relative to programs
 - ✓ It helps management to keep track of program status

EMS Audit

- EMS audits determine whether or not the EMS:
 - conforms to written programs and procedures, and
 - has been properly implemented and maintained
- Provides information on (root causes)
- EMS Audit is not a compliance audit

Management Review

- To ensure continuing effectiveness, adequacy, and suitability of the EMS
- Review progress against environmental objectives, targets, and performance goals
- Review indicators of system soundness
- Make decisions and set wheels turning for continual improvement

EMS Lessons

- EMS is the total system; nothing should be “outside”
- Existing EMPs make the base and belong “inside”
- EMS, before all else is about **management**; compliance and performance improvements are desirable outcomes that are more likely through EMS
- EMS operationalizes sustainability:
 - culture change, commitment, attitude
 - structure, clarity, consistency, control